

of a nucleic acid sequence and expression of the modified sequence is disclosed on page 13, lines 12-20. Alpha-amylases unrelated to the parent alpha-amylases as defined in the present claims are described at page 15, lines 11-17. No new matter is added. Accordingly, claims 71 and 72 are pending and at issue.

### **Sequence Listing**

Appended herewith is a request to transfer the Sequence Listing from the parent application to this application.

The content of the attached paper entitled "SEQUENCE LISTING" is identical to the information in the specification as originally filed. No new matter is added.

### **Rejection of Claims Under 35 U.S.C. § 103(a)**

In the parent application, claims similar in scope to present claims 71 and 72 were rejected under 35 U.S.C. § 103(a) as unpatentable over Machius et al., *J. Mol. Biol.* 246:545, 1995, and MacGregor, *J. Prot. Chem.* 7, 399, 1988, further in view of Svendsen et al., WO 94/02597 (see, Office Action of December 8, 1998, in application serial no. 08/600,908, now allowed). The Examiner contended that Machius et al. discloses the structure of calcium-depleted  $\alpha$ -amylase from *B. licheniformis*; MacGregor teaches how to predict  $\alpha$ -amylase structure; Svendsen et al. teaches recombinant production of  $\alpha$ -amylases; and that it would have been obvious to combine the teachings in these references to achieve the claimed invention. The Examiner also contended that Applicants were only entitled to the priority date of October 23, 1995, for the three-dimensional structure disclosed in the Appendix of the present application. This rejection is respectfully traversed.

Attached herewith is a certified copy of the first priority application, DK 0128/95, which was filed on February 3, 1995. The Examiner's attention is directed to the Appendix (following the figures), showing that the coordinates describing the three-dimensional structure of a *Bacillus*  $\alpha$ -amylase were disclosed in this application. It is believed on this basis that Applicants are entitled to the priority date of February 3, 1995 for the presently claimed invention.

On this basis, it is respectfully submitted that Macchius et al., which was published in March, 1995, is not a reference against the present claims.

As discussed with the Examiner in an interview with Applicants' representative and the inventors on May 27, 1999, MacGregor provides almost no useful information regarding the structure of *Bacillus*  $\alpha$ -amylases beyond elucidating the central  $\beta$ -barrel structure and the structure of some of the surrounding  $\alpha$ -helices. Thus, one of ordinary skill in the art, based on MacGregor, with or without Svensson et al., could have no reasonable expectation of achieving  $\alpha$ -amylase variants with predictively altered properties.

Accordingly, it is respectfully submitted that present claims 71 and 72 are free of the prior art.

Furthermore, and as further discussed at the May 27, 1998, interview, Applicants believe that the striking structural homologies between  $\alpha$ -amylases belonging to the "Termamyl-like"  $\alpha$ -amylase family (i.e.,  $\alpha$ -amylases having the sequence of SEQ ID Nos: 2, 4, 6, or 13 of the present specification or having a sequence at least 70% homologous to the sequence of SEQ ID Nos: 2, 4, 6, or 13, as required by the present claims) fully support the scope of the present claims.

In view of the above amendments and remarks, it is believed that the claims are in condition for allowance, and a determination to that effect is earnestly solicited.

Respectfully submitted,

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